UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,561	05/31/2001	Hee-Sun Cho	678-667 (P9391)	1131

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EXAMINER
NOLAN, DANIEL A

ART UNIT	PAPER NUMBER
2654	3

DATE MAILED: 11/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>31 May 2001</u> .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>31 May 2001</u> is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) ☐ Other: .

DETAILED ACTION

1.   Issues arising from the language used in the immediate application require that this explanation be provided to distinguish between the separate processes of "voice recognition" and "speech recognition." Voice recognition identifies individuals by sound, while speech recognition derives meaning from utterances. The USPTO categorizes these separately as class/subclasses 704/246 and 704/251, respectively.

Specification

2.   The use of the trademark "*Qualcomm's MSM™ chip*" has been noted in this application (page 3 line 15). It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

3.   The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "*Dual-Mode Radio Mobile Terminal with Voice Functions, where Mode is Determined by Operation*".

4.   The disclosure is objected to because of the following informalities:

-   The word "*moving*" is not correct (page 3 line 16). The Examiner is proceeding with

    the understanding that the word is unnecessary and can be disregarded.

-   "*Cannot*" should be 1 word (page 3 lines 21 & 24) for consistency (line 24).

-   "*Recognition*" is misspelled (page 8 line 5).

-   The paragraph of page 4 (line 22) is subject to interpretation as to whether the

    phrase beginning "corresponding to..." pertains to the call request signal (line 21) or

    the voice function (line 22). The Examiner is proceeding with the understanding that

    the voice registration is supported by – so corresponds to – the voice (processing)

    function.

-   In accord with the opening statement of this action, the term "speech" should be

    used for "voice" (in page 3 line 7, page 8 line 5) where meaningful text is a required

    objective, as for dialing.

Appropriate correction is required.

Claim Objections

5.   Claims 1, 5 and 6 are objected to because of the following informalities:

-   In accord with the opening statement of this action and in consideration that the

    specification is required to employ the term "speech processing", the term "voice

    recognition" in the claims becomes subject to interpretation.

- Because the antecedent basis of the specification requires that the claims support

    "voice dialing", the Examiner is proceeding with the understanding that the intent is

    to claim the feature of "speech recognition".

Appropriate correction is required.

Drawings

6.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because figure 1 includes reference signs (101, 102, 106 & 110) not mentioned in the

description.

        A proposed drawing correction, corrected drawings, or amendment to the

specification to add the reference sign(s) in the description, are required in reply to the

Office action to avoid abandonment of the application. The objection to the drawings will

not be held in abeyance.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Heidari[957] & Hoffman

9.   Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Heidari[957] (U.S. Patent 5,790,957 A) in view of Hoffman (U.S. Patent 6,622,017 B1).

10.   Regarding claim 1, the invention for *speech recall in cellular telephone* by

Heidari[957] reads on the features of the claim for *operating a voice function for outputting*

a voice memo in a dual-mode radio mobile terminal (column 1 lines 60-62), *the terminal*

including a vocoder (taught at column 1 lines 33-37 & 43-47 as reason to be utilized in

column 2 line 45) *for converting data between PCM format and packet format.*

        Heidari[957] (column 8 lines 55-62) further reads on the steps *of determining*

whether a request for the voice function is input or not (column 8 lines 58-59), *switching*

the vocoder into digital mode to operate the voice function and (column 8 lines 63-67)

operating the voice function in digital mode.

Heidari'957 does not specifically include *speech recognition* as one of the

supported voice operations. The invention for *over-the-air programming of wireless*

terminal features by Hoffman (column 2 lines 50-51) reads on the feature *for including a*

voice recognition function It would have been obvious to a person of ordinary skill in the

art of speech signal processing at the time of the invention to apply the method and/or

teachings of Hoffman to the device/method of Heidari'957 so as to offer added service

upgrades to provide additional revenue.

11.   Regarding claim 2, the claim is set forth with the same limits as claim 1.

Heidari'957 (column 3 lines 35-50) reads on the feature that *the vocoder is switched from*

PCM mode to packet mode (as with route changing from *analog to digital* in column 3

line 45).

Heidari'957, Hoffman & Kim

12.   Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Heidari'957 in view of Hoffman and further in view of Kim (U.S. Patent 6,421,353).

13.   Regarding claim 3, the claim is set forth with the same limits as claim 2.

While both Heidari'957 and Hoffman provide the means to switch between coding types,

neither mention *returning the vocoder to PCM (for analog) mode if a call request is input*

during packet (for digital) voice operation. The *mobile radio telephone recording &*

reproducing voice control of Kim reads on *the step of switching the vocoder back to*

PCM mode (60→70 in figure 4) *if a call request is input during operation of the voice*

function in packet mode (column 6 lines 40-43). It would have been obvious to a person

of ordinary skill in the art of speech signal processing at the time of the invention to

apply the method and/or teachings of <u>Kim</u> to the device/method of <u>Heidari</u>[957] & <u>Hoffman</u>

so as to free the finite signal processing resource from task that can be resumed, for an

immediate request.

14.   Regarding claim 4, the claim is set forth with the same limits as claim 2.

Neither <u>Heidari</u>[957] nor <u>Hoffman</u> mention *returning the vocoder to PCM (or analog) mode*

if the voice function is terminated. <u>Kim</u> (column 6 lines 56-60) reads on *the step of*

switching the vocoder back to PCM mode if the voice function is terminated, which

would have made it obvious to a person of ordinary skill in the art of speech signal

processing at the time of the invention to apply the method/teachings of <u>Kim</u> to the

device/method of <u>Heidari</u>[957] & <u>Hoffman</u> so as to have the parameters set to the

predetermined default idle state to allow the controller to set the parameters for a next

signal from a known state.

15.   Regarding claim 5, the features of *operating a voice function including speaker's*

voice recognition and output of stored information by voice in a mobile terminal, the

mobile terminal including a vocoder for converting data between PCM format and

packet format, with *the steps of determining whether a request for the voice function is*

input or not and *operating the voice function* are the same as those found in claim 1 and the rejections are applied to this claim for the same reasons.

Neither Heidari[957] nor Hoffman specifically include the limitation of *switching the vocoder from PCM mode to packet mode.* Kim (column 4 lines 6-9) reads on the step of *switching the vocoder from PCM mode to packet mode* and (column 6 lines 57-60) reads on the step of *switching the vocoder back to PCM mode if the voice function is terminated.* It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Kim to the device/method of Heidari[957] & Hoffman so as to be in accordance with the standard QCELP required algorithm.

16.   Regarding claim 6, the features of *operating a voice function including speaker's voice recognition and output of stored information by voice in a mobile terminal, the mobile terminal including a vocoder for converting data between PCM format and packet format,* with *the steps of determining whether a request for the voice function is input or not, switching a vocoder from PCM mode to packet mode, operating the voice function* and *switching the vocoder back to PCM mode if the voice function is terminated* are the same as those found in claim 5 and the rejections cited in response to those features there are applied to this claim for the same reasons. Heidari[957] (column 9 lines 1-8) reads on the step of *selecting one of voice recognition function and voice output function.*

Conclusion

17.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

-    Brophy *et al* (U.S. Patent 6,070,089 A) vocoder bypass control utilizing inband

     signaling.

-    Aftelak (U.S. Patent 6,134,242 A) method of reverting to tandem operation between

     transcoders of a communication system.

-    Heidari[893] (U.S. Patent 5,550,893 A) speech compensation in dual-mode telephone.

-    Doshi *et al* (U.S. Patent 5,729,536 A) cellular system architectures supporting data

     services.

-    Katayanagi *et al* (Japan Patent 11-178065) voice code processing section

     changeover and stored voice data are reproduced in response to a reproduction

     request of the user independently of the communication mode.

-    Kiuchi *et al* (Japan Patent 10-243453) iridium main body terminal and ground wave

     portable terminal to connect PCM data sent to a vocoder detected by a detection

     circuit, a selection key and a permission circuit.

18.   Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Daniel A. Nolan at telephone (703) 305-1368 whose

normal business hours are Mon, Tue, Thu & Fri, from 7 AM to 5 PM.

If attempts to contact the examiner by telephone are unsuccessful, supervisor

Richemond Dorvil can be reached at (703)305-9645.

The fax phone number for Technology Center 2600 is (703)872-9314. Label

informal and draft communications as "DRAFT" or "PROPOSED", & designate formal

communications as "EXPEDITED PROCEDURE". Formal response to this action may

be faxed according to the above instructions,

or mailed to:
                        Commissioner of Patents and Trademarks
                        Washington, D.C. 20231

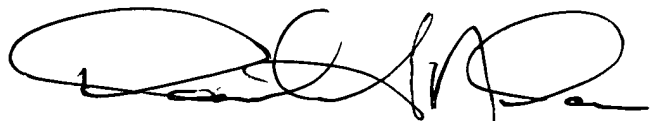or hand-delivered to: Crystal Park 2,
                        2121 Crystal Drive, Arlington, VA,
                        Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to Technology Center 2600 Customer Service Office at

telephone number (703) 306-0377.

                                        Daniel A. Nolan
                                        Examiner
                                        Art Unit 2654

DAN/d
November 4, 2003

DANIEL NOLAN
PATENT EXAMINER